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# Effectuation and Over-Trust: Debating Goel and Karri

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**In their article on entrepreneurship, effectuation, and over-trust, Goel and Karri suggest relationships between effectuation, over-trust, and certain psychological characteristics of entrepreneurs. In this response we debate their article. Goel and Karri are correct in claiming that effectuation supposes over-trust. However, we argue that effectual logic works in a different way than they presented because it neither predicts nor assumes trust. Goel and Karri's article also draws attention to the behavioral assumptions underlying constructs such as over-(under) trust. Our suggestion is that effectuation is based on alternative behavioral assumptions that open up interesting avenues for future research in entrepreneurship.**

**I**n the July 2006 issue of *Entrepreneurship Theory and Practice*, Goel and Karri (2006) made an interesting and provocative link between effectual logic and over-trust. They then went on to develop a series of propositions relating various psychological constructs to over-trust. In doing so, they opened the door to an interesting conversation not only about effectual logic but also about the behavioral assumptions underlying major theories of entrepreneurship.

Their central argument (as stated in the abstract of the paper) goes as follows:

Specific personality characteristics of the entrepreneur interact with effectual logic to make the entrepreneur more susceptible to over-trust (p. 477).

In their article, they develop in some length the links between effectuation and over-trust (laid out in the Simplot example in Table 1 and the analysis in Table 2) as well as the links between certain entrepreneurial characteristics and over-trust (summarized in Table 3). Links between entrepreneurial characteristics and effectuation, however, are not explicitly developed.

In our response in succeeding discussions, we examine all three sets of links with a view to (1) deepening our understanding of the effectuation model itself and (2) furthering and cumulating larger streams of theorizing in the field of entrepreneurship research that have to do with behavior, cognition, and action. We proceed in three steps. First we accept the concept of over- (under) trust and examine its implications for the use of effectual logic in general and the Simplot case in particular. Next we scrutinize the relationship

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between the psychological characteristics of entrepreneurs and the use of effectual logic. Finally we outline a key objection to the behavioral assumptions underlying constructs such as over- (under) trust and suggest an alternative that opens up interesting avenues for future research in entrepreneurship.

### Effectual Logic and Over-Trust

Goel and Karri are very clear and concise in their definition of over-trust, particularly as it relates to effectual logic in entrepreneurial settings:

Goel, Bell, and Pierce (2005) proposed: “Over-trust reflects a condition where one chooses, either consciously or habitually, to trust another more than is warranted by an objective assessment of the situation.” We refine this definition further in the context of the entrepreneurs’ trusting behavior by forgoing reliance on deviation from the objective merits of the situation. We observe that some people can trust in contexts where others may urge caution and seek cautionary safeguards. In this respect, over-trust can be viewed as instrumental in making deals under the assumption that the other parties will keep their end of the bargain. The assumptions guiding over-trust in this context are diametrically the opposite of Williamson’s (1985) prescription of assuming opportunism in the same context. In other words, the effectual entrepreneur is placing a bet in the opposite direction of the Williamsonian entrepreneur (p. 479).

This conceptualization is accurate but inadequate. In general, in any new relationship, be it one of a single trade or a series of repeat encounters, there is motivational uncertainty (at least) at the beginning—i.e., it is not clear whether the other person is trustworthy or not. There are several ways of characterizing and dealing with this uncertainty. The sociological notion of *tertius gaudens* (Coleman, 1990) is one option. Setting aside the solution offered by a third party for the moment, let us examine a one-to-one transaction.

If we take a predictive approach to the first deal with a relative stranger, we are liable to make one of two types of errors—in Goel and Karri’s terms over- or under-trust. Williamson advocated under-trust and Goel and Karri are correct in claiming that effectuation supposes over-trust, assuming there is such a thing as optimal trust. But it does not automatically follow that effectuation advocates making deals “under the assumption that the other parties will keep their end of the bargain,” even though *over-trust* may very well advocate that assumption.

Nor does it imply that the effectual entrepreneur is “placing a bet.” Goel and Karri (2006) make the evocative claim that “the effectual entrepreneur is placing a bet in the opposite direction of the Williamsonian entrepreneur” (p. 479). It is important to remember here that Williamson was not explicitly laying out a thesis about entrepreneurs per se, whereas effectuation is. Furthermore, Williamson is not advocating the descriptive reality that human beings are in actual fact opportunistic. Instead, he is advocating the normative prescription that when in doubt, contracts should be written *as if* human beings will behave opportunistically. Effectuation highlights circumstances under which it is OK to assume the opposite—i.e., in the face of Knightian uncertainty wherein the only way for each party in the relationship to benefit is by making small (affordable-loss based) but credible commitments to a joint course of action *even if* each is unsure of the other’s trustworthiness down the road. The devil, as usual, is in the details.

The first point to note here is that effectual logic is *nonpredictive*. So the effectuator, by definition, does not “place bets.” Instead, she does two things:

1. The effectuator invests only what she can afford to lose. Note here that effectuation advocates nonpredictive strategies for *both* parties to the transaction. Therefore, each invests only what he or she can afford to lose. The willingness to lose the investment—or more accurately, the creativity that each stakeholder exercises to bring the idea to market with zero resources invested—obviates the necessity to place substantial “bets.”
2. The effectuator also seeks to influence and shape the future, including the future behavior of other stakeholders. This involves the recognition that intelligent altruism (as opposed to naïve altruism, naïve selfishness, and opportunism) *cues in* intelligent altruism in others (Simon [1993] provides a detailed exposition of this topic).<sup>1</sup> This implies that there is no need to assume a “tendency” or trait in the effectuator to behave altruistically. Instead, intelligent altruism is simply a rational strategy in the earliest stages of the formation of a new entrepreneurial network.

The second point to note is that the stitching together of the stakeholder network process in effectuation proceeds commitment by commitment—and not by either *predicting* or *assuming* trustworthy behavior. This is because effectuation is about the formation of new ventures and new markets in the face of Knightian uncertainty where even the very existence of countable instances over which probability distributions may be estimated is in doubt (Knight, 1921). To put it simply, effectual negotiations are about what the pie could, should, and would be rather than about how large it will be or how to divide it among the stakeholders. Therefore, each effectual commitment involves both the recognition (1) that the pie does not exist and all investments are merely tickets to buy “voice” in shaping what that pie might eventually turn out to be and (2) that there will be several more negotiations and transformations as new stakeholders self-select into the process.

The *self-selection* aspect is worth elaborating. In effectuation, clear goals do not drive the stakeholder selection process—i.e., the goals of the new venture or the predicted features of the opportunity do not drive who comes on board. Instead, who comes on board drives what the goals of the enterprise will be and what the new market opportunity will eventually turn out to be. And the only way anyone can become a stakeholder in the effectual process is by making a real commitment, i.e., by actually staking something. For a detailed step-by-step explication of this process and its ramifications for opportunism and opportunity costs, see Sarasvathy and Dew (2005).

Intelligent altruism, therefore, is inevitable and even seminal to the genesis of effectual networks. Yet effectuation does not *assume* intelligent altruism. It simply makes intelligent altruism a *rational* criterion for action in the face of Knightian uncertainty and goal ambiguity—not only for entrepreneurs but also for *all* their early stakeholders. Let us try to illustrate these points through a reexamination of the Simplot case that Goel and Karri use in their article, particularly the analysis in Table 1.

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1. Altruism, as Simon uses the term, comes from genetics and denotes “behavior that increases, on average, the reproductive fitness of others at the expense of the fitness of the altruist” (Simon, 1993, p. 156). Intelligent altruism, therefore, is the recognition by an intelligent (human) being that at times there are positive payoffs to behaving in ways that increase other people’s benefits even at a cost to oneself. Thus, the intelligent altruist is neither opportunistic nor completely unselfish, yet has developed a sense of when to be which. Therefore, it is possible that intelligent altruists will *appear* over-trusting even when trust may play no part in their decision criteria. Simon also showed that when some people act altruistically purely because they believe the circumstances warrant such a behavior, their actions probably “cue in” intelligent altruism in the behaviors of those interacting with them, hence creating a “virtuous cycle” of the sort effectuation argues *can* happen (and probably does happen) in the face of Knightian uncertainty.

## The Simplot Case Revisited

The J.R. Simplot story presented in the left-hand column of Table 1 in Goel and Karri's article gives the impression that effectuation is simply a matter of "betting on hunches" and "trying everything" randomly. A deeper investigation shows, however, that there is more to the J.R. Simplot story and—as argued in several articles—there is definitely more to the logic of effectuation. From the very beginning, J.R. worked with available means and self-selected stakeholders to construct opportunities in a nonpredictive fashion. As Silver (1985) chronicles it, J.R.'s entrepreneurial career began around 1927:

When the farmers feared a pork surplus and slaughtered their hogs, 16-year-old Simplot collected and fed hogs and waited out the period until hogs were in short supply. He made a profit that financed his first potato processing plant (p. 397).

For the next three years, he went into farming, trading animals, and learning how to survive on sparse land and in hard times. He heard of an electric potato sorter in 1928, bought it for \$345 and began sorting and storing potatoes for other farmers. The Great Depression increased the demand for potatoes and Simplot's business expanded. By 1940 he employed about 1,000 workers at 30 potato and onion warehouses, each of which had three sorters (p. 398).

In our view, this is hardly the story of someone who simply runs around trying random things. J.R. did not do careful market research and financial projections before deciding to take care of the hogs (in the face of a predicted pork glut) or when he went into the potato sorting and storing business. In both cases, though, what exactly did he have to lose? In the first case, it was primarily sweat equity (he did not need to "buy" hogs; he simply "collected" and fed them—they were scheduled to be slaughtered anyway) and in the second, the investment of \$345 was negligible given that he had already made \$7,800 on his pork "corner." Thereafter, further growing the business by adding potato and onion warehouses was how Simplot leveraged an important contingency (the Great Depression, which increased the demand for potatoes) and appears to have been in large part funded internally.

The story of his next major enterprise, the onion powder and flake business, is more interesting. As Gilder (1984) tells the story:

Then in the spring of 1940, Jack Simplot decided to drive to Berkeley, California, to find out why an onion exporter there had run up a bill of \$8,400 for cull (or reject) onions without paying. . . . The girl in the office said the boss wasn't in. Fine, said J.R., he would wait until the man arrived. Two hours later, at ten o'clock, a bearded old man walked in. Assuming this was his debtor, Simplot accosted him. But he turned out to be a man named Sokol, inquiring why he was not getting his due deliveries of onion flakes and powder. They sat together until noon, but still the exporter failed to arrive.

As the noon hour passed, Simplot was suddenly struck with an idea. He asked the bewhiskered old trader to a fateful lunch at the Berkeley Hotel. "You want onion powder and flakes," said J.R., "I've got onions. I'll dry 'em and make powder and flakes in Idaho."

The two men shook hands on the deal and returned to the exporter's office. Mr. J.R. Simplot had entered the food processing business, without any clear notion of how to produce dried onion powder or flakes (p. 30).

Sure. But J.R. already had most of the necessary means—he had onions, warehouses, and—not insignificantly—he knew that others were already producing dried onion flakes and powder. Moreover, he did not have to “bet on hunches” because he had a *real* customer—someone who wanted onion flakes so badly he was willing to wait several hours at his supplier’s office. Committing to the onion flake business was well within his affordable loss limits (hence hardly a “bet”) and the fact that the customer was willing to wait on a delinquent supplier signaled the customer’s commitment as well (i.e., not a “hunch,” rather based on “evidence”). The history of the Simplot enterprise continued in a similar vein through a logical process of adding units and stakeholders that included leveraging a variety of contingencies often in an exaptive fashion (Dew, Sarasvathy, & Venkataraman, 2004). Silver (1985, p. 399) describes the development as follows:

Simplot quickly learned that other foods could be dried as well, and that the process reduced the storage requirement to one-seventh the warehouse space required prior to drying. When America entered World War II, Simplot’s dried potatoes were in enormous demand as field rations. To get more potatoes, he bought and cleared more land for farming. To dispose of the endless skins, he bought a feedlot for 3,500 hogs. To get more fertilizer, he bought mineral rights to 2,500 acres of phosphate-rich Indian land.

We agree with Goel and Karri that it appears that J.R. used effectual logic more often than not and more than most run-of-the-mill entrepreneurs in the larger population. The motto on a metal plaque on his desk stated: *Nothing will ever be attempted if all possible objections must first be overcome*. In an entrepreneurial career spanning eight decades, this meant his investments included ventures that did not pan out well. But—Anders’s (2004) particular phraseology of the story in the *Wall Street Journal* notwithstanding—the historical data on the decisions J.R. made and how he made them do not justify the claim that “JR had to try everything” (Goel & Karri, 2006, p. 481) randomly or on a whim plunged into “everything that interested him” (Goel & Karri, 2006, p. 482, Table 2).

In sum, our case is a simple one. It is true that effectual logic suggests biasing trust-related decisions in the opposite direction to that advocated by Williamson (1985). Simplot and Sokol did not wait for their lawyers to parse out the fine print in written contracts before they shook hands on the onion flakes deal. But the logic of effectuation suggests neither indiscriminate over-trust nor naïve altruism. Instead, effectuators build networks of self-selected stakeholders, each of whom commits only what he or she can afford to lose, to help shape new ventures and new markets that may or may not eventually turn out to be blockbuster financial successes. We think that neither Simplot nor Sokol would mortgage their homes to start random new enterprises with strangers on the street who may approach them with deals, “interesting” though they may be.

## **Psychological Characteristics of Entrepreneurs and the Use of Effectual Logic**

On page 484, Goel and Karri make a rather troubling claim:

The effectuation theory puts the focus back on entrepreneurs and their worldview, which makes them different from nonentrepreneurs in the specific way they process information and sense and create opportunities by following an effectual logic.

There is no claim in effectuation that it is a characteristic of entrepreneurs that makes them different from nonentrepreneurs. Effectuation is merely a claim about “expert” as

opposed to “novice” entrepreneurs. Put another way, all human beings, irrespective of whether they are entrepreneurs or not, can learn and use effectuation. In fact, our particular position in this regard is one of deep skepticism about classifying human beings into separate species called “entrepreneurs” and “nonentrepreneurs.”

In our view, effectuation is a logic: a set of internally consistent decision criteria for guiding action. It may or may not have basis in an innate psychological trait. In any case, the trait basis for effectuation is neither necessary nor sufficient for its use. In other words, *all* human beings can learn and choose to use an effectual logic, whether to build new ventures or for other purposes. Also, both causal and effectual logics can be and usually are used to build new ventures—successful or otherwise. And, of course, effectuation is not a theory about entrepreneurs per se; it is a theory of entrepreneurial *expertise*.

The theoretical elements of effectuation were induced from cognitive-science-based empirical investigations into how expert entrepreneurs build new ventures and new markets (Dew, 2003; Sarasvathy, 1998). These provide insights into how they think, act, make decisions, and solve problems, and not into their psychological characteristics. In fact, none of the four constructs discussed in the Goel and Karri article were even measured in the original study (Sarasvathy, 1998). As far as we are aware, the only published attempt to measure both the use of effectuation and psychological characteristics of the subjects found very weak or no correlation between particular psychological measures and the use of effectual logic (Allen, 2003). Unpublished data collected by Wiltbank (personal communication, 2006) so far corroborates Allen’s findings. Out of a wide range of psychological measures, the only one that cannot be ruled out (based on this data) is self-efficacy.

Moreover, effectuation provides explanations for how ordinary individuals may end up building new ventures and new markets even when they do not explicitly set out to do so. Sarasvathy (2001), for example, argues for focusing entrepreneurship research on “How do people become entrepreneurs?” and away from questions such as “Why do some people become entrepreneurs, while others do not?” or its corollary, “Why do some perceive entrepreneurial opportunities and act upon them, when others do not?” Therefore, the claim that effectuation divides the world into entrepreneurs and nonentrepreneurs is perplexing and unwarranted.

All the same, it may be useful to state more clearly the underlying assumptions about human behavior on which effectuation rests and how they compare with behavioral assumptions in entrepreneurship research in general. We turn to that next.

## **On Behavioral Assumptions in General**

Most major theories in the social sciences, explicitly or implicitly, make assumptions about human behavior. For example, mainstream economics assumes human beings are rational; mainstream sociology generally assumes that human beings are boundedly rational, etc. The conventional consensus or meta-assumption underlying these behavioral assumptions is that people can be divided into reasonably distinct categories based on stable distributions of particular psychological or cultural characteristics such as self-efficacy, nonconformity, etc. In other words, populations can be characterized and segmented into groups consisting of say, highly conformist, highly nonconformist, and moderate. Some pervasive assumptions used in economics and management theories include risk aversion, opportunism, and well-ordered preferences.

There are vast bodies of literature on each of these. But the verdict of empirical work suggests that such assumptions may be misleading. Take, for example, Paul Slovic’s



address to the 102nd Annual Convention of the American Psychological Association, where he summarized over two decades of research that shows that while some people take preferences as entirely endogenous and others take them as exogenously given, others construct them as they go along, sometimes in the very process of elicitation by researchers seeking to understand them:

The meaning of preference and the status of value may be illuminated by this well-known exchange between three baseball umpires. “I call them as I see them,” said the first. “I call them as they are,” claimed the second. The third disagreed. “They ain’t nothing till I call them,” argues the third (Slovic, 1995, p. 364).

Similar results may be found in the risk-propensity literature. Two recent meta-analyses of the literature point to the significance of entrepreneurial characteristics in opposite directions (Miner & Raju, 2004; Stewart & Roth, 2001). And even if one prefers one meta-analysis over another, the effects are very small.

Opportunism does not fare all that better. (Rabin [1998] provides a comprehensive review, and Frank [1988] an alternative perspective.) So while opportunism makes a convenient modeling assumption (for some purposes), what we know empirically about self-interest suggests:

1. People are not solely or even massively self-interested; nor are they entirely altruistic.
2. The same person may be altruistic at certain times and opportunistic at others (robber barons such as Andrew Carnegie).
3. People who are predominantly opportunistic in one domain may be concurrently altruistic in others (*The Godfather*).

One reason for this pattern of results could be that selection mechanisms in biological evolution have produced human beings that are astute in recognizing and acting upon cues for individualistic *and* collectivistic behavior:

Because selection has sometimes favored individualistic and at other times collectivist behavior, the human species has evolved not only the capacity for both kinds of action but probably also a complex cognitive device for figuring out in a given situation which kind of action, collective or individualistic, is likely to produce the best genetic outcome (Thompson, 1998, p. 305; also cited in Sarasvathy & Dew, 2005).

What biologists have discovered about human genetics suggests is that in one sense we are more alike than unlike each other—with all geographic, historical, ethnic, and cultural variations factored in, we are truly a single species still. Yet we are also extraordinarily different from one another. For example, within a relatively unmixed and genetically homogenous aboriginal population, we can find more than 84% of all possible human variations (Lewontin, 1992). This pattern is mirrored in populations of human artifacts as well. For example, a series of industry studies by Griliches and his colleagues finds persistent heterogeneity among firms, so much so that they have to conclude that “the simple production function must be seriously misspecified” (Mairesse & Griliches, 1990). In their words:

There is a sense in which different bakeries are as much different from each other, as a steel industry is from the machinery industry (Griliches & Mairesse, 1999, p. 198).

In sum, the logic of effectuation is premised on the possibility that variation in human behavior may encompass the following three characteristics:

- *Heterogeneity*. People are very different from one another. However, we might classify human beings into categories; variation within categories will be as likely and significant as variation between categories.
- *Lability*. People change over time. Not only behavior, but traits and preferences, culture and institutions change.
- *Contextuality*. People play multiple roles. For example, a person may be highly risk averse to jumping off of airplanes but might nonchalantly short-sell stocks in a bull market.

We did not use the concept of “situation” here because this term has been used to confound two separate concepts: context as a setting for behavior—that is, a domain within which a particular behavior occurs—and context as a determinant of behavior—that is, a set of circumstances or constraints that causes people to behave in a particular way. We use the word “contextuality” exclusively in the former and not in the latter (deterministic) sense. Like genetics or childhood experiences, “situation” may explain why and how people differ from each other, or change over time, or take on multiple roles. Effectuation takes neither trait dependence nor situation dependence, by itself, as a characteristic of human behavior, even though such dependence may explain how and why one person’s behavior differs from another’s, or how and why someone changes over time, or how and why individuals play multiple roles. Whereas situation dependence and free choice are each necessary but insufficient explanations for human behavior (as widely used in causal explanations), the crux of our perspective is that the previous three characteristics are sufficient but unnecessary assumptions about human behavior underlying effectual logic.

In sum, opportunistic cynics, trusting idealists, and rational calculators of optimal trust can all learn to effectuate. Using exactly the same effectual logic, each will of course arrive at completely different outcomes precisely because their starting point (i.e., *who they are* in terms of their underlying approach to trust) is different. For example, hackers may join hands with other hackers to build stronger computer viruses; software security firms may work with their stakeholders to build stronger barriers to those viruses; and occasionally, hackers and security firms may find ways of codeveloping viruses that hack into those who threaten their common interests (such as in the fight against international terrorists). Effectuation can be a useful tool in all of these ventures.

Theoretically speaking, effectual logic does not *require* any particular assumption about trust *ex ante*. *Ex post*, however, it is quite possible that effectuators will be empirically found to have exhibited over-trust, particularly when examined in contrast to Williamson’s seminal yet controversial arguments about the necessity to assume opportunism in human behavior.

## Conclusion

By making a link between effectuation and over-trust, our hope is that Goel and Karri’s article might stimulate entrepreneurship researchers not only to investigate these topics in more depth but also to scrutinize the behavioral assumptions used in entrepreneurship research with an eye to how these assumptions inform the way we interpret theory. In our view, in order to look at entrepreneurial phenomena through an effectual lens we need to weaken our assumptions about prediction, opportunism, and psychological stratification and deepen them on intelligent altruism, heterogeneity, lability, and contextuality. Once we shed our monistic baggage, it is easier to see why over-trust—although it may be an important concept in a causal scenario—is largely irrelevant in effectual ones.



This notion that entrepreneurial phenomena look different through the lens of behaviors such as intelligent altruism can be extended in a number of other directions that we think may present productive avenues for future research. Take, for instance, the notion of “opportunity discovery.” As outlined in the work of Kirzner (1979, 1989), opportunity discovery is premised on the ethic of “finders keepers”—the entrepreneur who finds (discovers) an opportunity is the rightful keeper of entrepreneurial profits arising from the opportunity. These conclusions logically follow from Kirzner’s subjectivist perspective. But however useful this perspective might be for some purposes, it can explain only a fraction of opportunity discovery.

In particular, it appears not at all well suited to explaining how large, complex, multiplayer opportunities are discovered and exploited. Some opportunities involve a lot more “moving parts” than others. These sorts of opportunities involve interactions between many stakeholders and in general depend on concerted action to recoordinate the use of resources controlled by these different players (Denrell, Fang, & Winter, 2003). Such opportunities can sometimes be characterized as having weak-link structures: They are only as strong as the weakest link in the circle of stakeholders (Knez & Camerer, 1994). They are defeated by two kinds of problems that inhibit coordination among stakeholders—asymmetric information (a strong feature of Kirznerian entrepreneurship) and hold-up tactics (a logical outcome of subjectivism combined with a finders-keepers ethic). If, as we believe, these behaviors “collapse” many potential opportunities, then the discovery of such opportunities is logically beyond the purview of the (anticipatory) Kirznerian entrepreneur. To discover such opportunities is simply inconsistent with the behavioral assumptions of Kirznerian entrepreneurship.

Things are different for the effectual entrepreneur who views intelligent altruism as a rational strategy for herself and leverages the fact that adopting this behavior potentially cues in intelligent altruism in others. To the extent that large, complex, multiplayer opportunities depend on intelligently altruistic behavior by stakeholders who are collectively aware that they depend on each other not to collapse an opportunity in the making, one can say that the effectual entrepreneur can discover opportunities that simply do not exist to the Kirznerian entrepreneur. The precise conjecture here is that there exist certain types of opportunities that are contingent on *several* players noticing that it might be rational for them to adopt trustful and trusting behaviors in order for the opportunity to be brought to fruition. We think that human beings are indeed sufficiently adept at noticing behavioral cues, as well as being sufficiently heterogeneous, labile, and context sensitive to implement the requisite behaviors. We also believe that entrepreneurship scholars are sufficiently ingenious to find ways of empirically evidencing the relationship between multiple dimensions of opportunity discovery and the variety of human behaviors that are sufficient, although unnecessary, ingredients for entrepreneurship.

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